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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/822,882  
Filing Date: April 13, 2004  
Appellant(s): SIMONS, RICHARD

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Brian Tufte  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 4/27/2009 appealing from the Office action mailed 8/1/2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

7,092,794

Hill et al.

8-2006

AndelmanLelek "Proposal for Commissioning Services-Ashland High School"

August 29, 2003

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 39-40 & 42-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Hill et al. (USPN 7,092,794).

With regards to claim 39, Hill et al. (USPN 7,092,794) teaches a method for determining which of a plurality of HVAC systems will require maintenance, the method comprising the steps of:

transmitting a test request to each of the plurality of HVAC systems from the remote location; (Co1.2, lines 15-21 )(fig 1 )

performing one or more tests on at least selected ones of the HVAC systems in response to the test request, and producing a test result for each of the selected HVAC systems; (Co1.2, lines 21-24)

transmitting the test result for each of the selected HVAC systems to a remote location; (Col. 2, line 22)

storing the test results at the remote location; (Co1.2, line 25-26)and

identifying which of the HVAC systems will likely need service by analyzing the test results. (Col.4, lines 39-40)

With regards to claim 40, Hill et al. (USPN 7,092,794) teaches a providing different test requests to at least two of the plurality of HVAC systems,(fig I &7) wherein each test request identifies a different test to perform.(Col. 3, lines 30-33)

With regards to claim 42, Hill et al. (USPN 7,092,794) teaches a scheduling service on at least some of the HVAC systems that have been identified as likely needing service. (Col. 4, lines 41-42)

With regards to claim 43, Hill et al. (USPN 7,092,794) teaches a method of remote testing of HVAC systems comprising the steps of:

transmitting one or more maintenance signals from a remote unit to a specified group of customer HVAC systems, the specified group being a number less than a total number of customer HVAC systems in a customer database; (Col. 2, lines 60-64)

receiving the one or more maintenance signals at each of the HVAC systems, the one or more maintenance signals activating an HVAC component; (Col. 2, lines 25-29)

performing a self-test on the activated HVAC component based on the received one or more maintenance signal; (Col. 4, lines 8-14)

generating self-test result signals from the activated HVAC component based on the self-test preformed on the activated HVAC component; (Col. 2, lines 16-20)

transmitting the self-test result signals from the HVAC system to the remote unit; and receiving the self-test result signals from the HVAC systems at the remote unit. (col.4, lines 8-10)

storing the test results at the remote location. (Col. 4, lines 27-28)

With regards to claim 44, Hill et al. (EP 1 196 003 A2) teaches determining the specified group of customer HVAC systems based on the specified group of customer HVAC systems being within a specified geographic area prior to the step of transmitting the one or more maintenance signals. (figure 6-7)

With regards to claim 45, Hill et al. (EP 1 196 003 A2) teaches determining which customer HVAC systems from the specified group of customer HVAC systems likely require maintenance based on the self-test signals received by the remote unit. (see figure 7)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (USPN 7,092,794).

With regards to claim 46, Hill et al. (USPN 7,092,794) does not appear to teach performing maintenance in response to a diagnostic test yielding faulty results.

It would've been obvious to one of ordinary skill in the art at the time of the invention to modify the Hill teaching to include performing maintenance in response to a faulty HVAC unit diagnostic test in order to have the HVAC unit running and providing the service it was manufactured to perform.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20, 29-30, 35-38 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (USPI/ 7,092,794) in view of AndelmanLelek (NPL).

With regards to claim 1, Hill et al. (USPI/7,092,794) teaches a method for testing an HVAC system for a building structure from a remote location outside of the building structure, the HVAC system having an active component and a dormant component, the method comprising the steps of:

receiving a test request from the remote location; (Col. 4, lines 8-10)

transmitting the test result to a location outside of the building structure for subsequent analysis, and (Col. 4, lines 14-20)

With regards to claims 2 and 4, Hill et al. (USPN 7,092,794) teaches that a component is a heating component or a cooling component. (14; figure 1)

With regards to claim 3 and 5, Hill et al. (USPN 7,092,794) teaches that a component is a cooling component or a heating component. (14; figure 1)

With regards to claim 6, Hill et al. (USPN 7,092,794) teaches the test request is received from a remote computer.(12)

With regards to claims 7-10, Hill et al. (USPN 7,092,794) the test request is received from the remote computer via a telephone line connection, from the remote computer via a wireless connection, from the remote computer via a computer network, from the remote computer via the internet. (Col. 2, line 55-60)

With regards to claims 11-12, Hill et al. (USPN 7,092,794) teaches a gateway for receiving the test request from the remote computer, and for communicating with the HVAC system wherein the gateway stores one or more tests. (figure 7)

With regards to claim 13, Hill et al. (USPN 7,092,794) teaches the gateway submits at least one of the one or more tests to the HVAC system in response to the test request. (Col. 3, line 40-45)

With regards to claim 14, Hill et al. (USPN 7,092,794) teaches a subset of the one or more tests and submits the subset of the one or more tests to the HVAC system in response to the test request. (Col. 3, lines 29-34)

With regards to claim 15, Hill et al. (USPN 7,092,794) teaches the HVAC system includes two or more zones, and the test that is performed activates the primarily dormant component in conjunction with each of the two or more zones. (Col. 2, lines 25-29)

With regards to claim 16, Hill et al. (USPN 7,092,794) teaches transmitting a test request to two or more HVAC systems from the remote location. (see figure 1)



With regards to claim 17, Hill et al. (USPN 7,092,794) teaches the performing step performs a test on the primarily dormant component of the two or more HVAC systems in response to the test request, and produces a test result for each HVAC system. (see figure 7)

With regards to claim 18, Hill et al. (USPN 7,092,794) teaches the transmitting step transmits the test result for each HVAC system to a location outside of the building structure. (See figure 1)

With regards to claim 19, Hill et al. (USPN 7,092,794) teaches the remote location is the same as the remote location that the test result is transmitted. (see fig 1)

With regards to claim 20, Hill et al. (USPN 7,092,794) teaches the remote location is different than the remote location that the test result is transmitted. (fig 7)

With regards to claims 29 and 30, Hill et al. (USPN 7,092,794) teaches a method for testing an HVAC system for an inside space, the HVAC system having a heating/cooling component, the method comprising the steps of:

receiving a test request that is provided from a location remote from the building(see fig 1)

With regards to claim 35, Hill et al. (USPN 7,092,794) teaches a method for testing a plurality of HVAC systems each in a different building structure or in a different region of a common building structure from a remote location, the HVAC systems having an active component and a dormant component, the method comprising the steps of:

transmitting a test request to each of the plurality of HVAC systems from the remote location; (col. 4, lines 9-10)

performing one or more tests on each of the HVAC systems in response to the test request, and producing a test result for each of the HVAC systems, wherein at least one of the one or more tests that is performed activates and tests one or more of the active or dormant components of an HVAC system; (Col. 4, lines 5-13)

transmitting the test result for each of the HVAC systems to a remote location, (fig 1) and storing the test results at the remote location. (Col. 4, lines 39-40)

With regards to claims 36-38, Hill et al. (USPN 7,092,794) teaches at least one of the one or more tests that is performed activates and tests the active component of the corresponding HVAC system in response to the test request. (Col. 3, lines 30-34)

Hill et al. does not appear to teach performing a test on the dormant component of the HVAC system in response to the test request, and producing a test result wherein the active or dormant component is the heating or the cooling components  
AndelmanLelek teaches performing a test on the dormant component of the HVAC system in response to the test request, and producing a test result wherein the active or dormant component is the heating or the cooling components (page 5 seasonal testing paragraph)

It would've been obvious to one skilled in the art at the time of the invention to modify the Hill teaching to include the off season testing taught by AndelmanLelek in order to ensure that the HVAC system was functioning properly before the season change and to minimize/eliminate service interruption.

With regards to claim 41, Hill et al. (USPI/7,092,794) does not appear to teach charging for services rendered.

AndelmanLelek (I/PL) teaches charging for services rendered.(Page 5, fee section)

It would've been obvious to one of ordinary skill in the art at the time of the invention to modify the Hill teaching in order to charge for services taught by AndelmanLelek (I/PL) as it is commonly known that in order to run a viable business a monetary value must be assigned to services rendered.

**(10) Response to Argument**

**A.** Claims 39-40 and 42-45 are patentable over Hill et al. (U.S. Patent No. 7,092,794).

**Claim 39**

1) (appellant argument) Appellant argues that independent claim 39 recites numerous specific method steps, many of which are not disclosed or suggested by Hill et al. nowhere does Hill et al. appear to teach or suggest transmitting a test request to each of the plurality of HVAC systems from the remote location, performing one or more tests on at least selected ones of the HVAC systems in response to the test request, producing, a test result for each of the selected HVAC systems, and transmitting the test result for each of the selected HVAC systems to a remote location, as recited in claim 39.

1) (response)

The Hill et al. reference is a method and apparatus for connecting to HVAC units and in particular, to monitoring and controlling HVAC units via the internet or other network. (Col. 1, lines 5-10) The Hill et al. reference also teaches a user with an entry device such as a handheld computer or cell phone using wireless access protocol (WAP) can change settings, obtain diagnostic information and receive alarm messages about a plurality of HVAC devices. (Col. 1, lines 41-45). The purpose of the Hill et al. reference is to maintain the HVAC system remotely which includes performing diagnostic functions. (Col. 2, lines 59-64)

Hill et al. discloses transmitting a test request to each of the plurality of HVAC systems from the remote location; (Col.2, lines 15-21)(fig 1 ) performing one or more tests on at least selected ones of the HVAC systems in response to the test request, and producing a test result for each of the selected HVAC systems; (Col.2, lines 21-24) and transmitting the test result for each of the selected HVAC systems to a remote location; (Col. 2, line 22)

2)(appellant argument) Hill et al. merely teaches querying for or accessing status information, sending the status information to the entry device in response to the query, checking for messages, updating a database in the server, and changing setting on an HVAC device. Notably, nothing in this passage teaches or suggests performing one or more tests on at least selected ones of the HVAC systems in response to a test request, as recited in claim 39. Merely querying an HVAC device for what appears to be already present status information is clearly not equivalent to performing one or more tests on at

least selected ones of the HVAC systems in response to a test request as recited in claim 39.

Hill's et al. step of accessing what appears to be already present status information clearly cannot be deemed to be identical to the step of performing one or more tests on at least selected ones of the HVAC systems in response to a test request, as recited in claim 39.

2) (response)

Examiner would like to point out that the terms querying and requesting maybe interpreted as being synonymous i.e. both terms pose a question. It should also be noted that the terms diagnostics and tests are and can be interpreted as being synonymous as is well known to one of ordinary skill in the art.

In response to appellant's argument that the Hill et al. reference does not teach performing a test in response to a test request, appellant is directed to page 3, lines 40-51 of the Hill et al. reference.

When diagnostic information should be displayed in  
...response to the question in step 244, a message is sent to the  
server in step 246, after which the interface subroutine is  
invoked in step 248. After control is passed back from the  
interface subroutine, the server message is checked in step  
250 to see if it is the diagnostic information requested. If not,  
steps 246, 248, and 250 are repeated. If so, the diagnostic  
information is displayed in step 252 and program control  
goes to step 225 after the back button is pressed in step 237.

When the user chooses to exit in step 254, an exit message  
is sent to server 12 in step 256 and the user exits the program  
in step 260.

This section clearly shows that the diagnostic/test information is received in response to a question/query/request.

Further it should be noted that appellant's argument is not supported by appellant's claims. The phrase "test request" can be interpreted as requesting test results. The claim does not recite anything about remote instructions on performing the test merely a request. Further, as mentioned above in "1) (response)", the purpose of the Hill et al. reference is to maintain the HVAC system remotely which includes performing diagnostic functions. (Col. 2, lines 59-64) Since Hill et al reference is directed towards remotely controlling the HVAC diagnostics clearly there would be some sort of remote instruction to perform these diagnostics.

3) (appellant argument) However, nothing here teaches, discloses or suggests "identifying which of the HVAC systems will likely need service by analyzing the test results". Also, nothing in this passage appears to teach or suggest transmitting a test request to each of the plurality of HVAC systems from the remote location, performing one or more tests on at least selected ones of the HVAC systems in response to the test request, producing a test result for each of the selected HVAC systems, as recited in claim 39.

At most, Hill et al. suggest accessing and checking diagnostic or status information from a remote location, where the diagnostic or status information appears to be already present in the HVAC device 14. It appears that the diagnostic or status information is generated by the HVAC device 14, itself, and not in response to any remote test request of Hill et al.

3) (response)

Referring to FIG. 6, an example of the user database is shown. The user name is stored along with the user password and the information regarding which units are associated with the user name.

55 Referring to FIG. 7, an example of the unit database is shown. The items shown in the unit database are not meant to be limiting. The unit name is followed by the phone number, the power status, the mode status, the room temperature, the setpoint, the fan speed, the lower position, the timer status, diagnostic messages, alarm methods (which can include multiple alarm methods per unit), and the alarm data for sending an alarm message by one of the alarm 5 methods. Status information on the HVAC devices which is contained in the unit database is either updated on a regular basis or when requested by a message from the entry device. That is, status information can be sent to the server by the HVAC controller on a regular basis, or the server can request 10 the status information from the HVAC controller on a regular basis, in addition to or in place of the server requesting status information in response to a message from the entry device. The structure of the database is preferably changeable by a system administrator so as to add or delete 15 fields monitored or controlled through the server.

UNIT DATABASE

UNIT NAME	UNIT PHONE #	POWER	MODE	ROOM TEMP	SETPONT	FAN SPEED	LOWER	TIMER	DIAGNOSTIC	ALARM METHOD 1	ALARM DATA 1
OFFICE	(123)456-7890	ON	HEAT	22	22	LOW	1	OFF	NONE	E-MAIL	XYZ@CARRIER.UTC.COM
MILAN	(234)567-8901	OFF	OFF	23	22	OFF	HOME	OFF	NONE	PHONE	(555)123-4567
FRANCE	(345)678-9012	ON	COOL	24	22	MEDIUM	6	OFF	NONE	E-MAIL	XYZ@CARRIER.UTC.COM
LOBBY	(456)789-0123	ON	FAIL	25	22	OFF	HOME	OFF	ROOM AIR	SMS	(555)234-5678

*Fig 7*

Clearly, Col.4-5, lines 65-67 & 1-15 of the Hill et al. reference teaches identifying which of the HVAC systems will likely need service by analyzing the test results. As seen in figure 7 of the Hill et al. reference above the different HVAC system that are monitored are specified by name and any diagnostic information corresponding to that unit is attached. Clearly, the HVAC unit that triggers an alarm will need the service.

With regards to appellants argument "It appears that the diagnostic or status information is generated by the HVAC device 14, itself, and not in response to any remote test request of Hill et al." please refer to "2) response".

4) (appellant argument) Nothing in these passages of Hill et al. suggests performing one or more tests on at least selected ones of the HVAC systems in response to the test request, as recited in claim 39. Rather, Hill et al. appears to only disclose accessing and sending diagnostic or status information (that is likely self generated by the HVAC system at some previous time) upon request. The method of Hill et al. clearly operates fundamentally differently from that recited in claim 39, and therefore, cannot be deemed to disclose all of the steps of claim 39 as arranged in claim 39, as is required for anticipation.

4) (response) With regards to appellant's arguments in section"4)" please refer to "2) response".

5) (appellant argument) Appellants submit that equating the information accessing or querying steps of Hill with the steps of transmitting a test request and performing one or more tests in response to the test request, as recited in claim 39, is not a reasonable interpretation of Hill et al. The Examiner's interpretation of the claims is clearly inconsistent with the specification and is inconsistent with the interpretation that would be reached by one of ordinary skill in the art.

5) (Response) With regards to appellant's arguments in section"5)" please refer to "2) response".



6) (appellant argument) Additionally, if the Examiner is considering the elements recited in claim 39 to be inherent in Hill et al., Appellant submits that there is no basis for such an interpretation. Appellant submits that performing one or more tests on at least selected ones of the HVAC systems in response to the test request is clearly not necessarily present in Hill et al. Hill et al. provide no indication that in the normal and usual operation of their system, the claimed method steps would necessarily be performed. Further, as discussed above, the Examiner has not provided any reasoning to support the assertion that Hill et al. inherently and necessarily performs the claimed method steps.

6) (Response) Examiner has not relied on inherency as appellants as every element of appellants claim is taught by the Hill et al. reference. Clearly, as illustrated above the Hill et al. reference teaches performing one or more tests on at least selected ones of the HVAC systems in response to the test request.

#### Claim 40

1) (appellant argument) As set forth above, Hill et al. do not appear to teach the identical method steps recited in independent claim 39, from which claim 40 depends. Thus, for the same reasons discussed above, as well as other reasons, claim 40 is also believed to be clearly patentable over Hill et al.

2) (appellant argument) In addition, claim 40 recites the step of providing different test requests to at least two of the plurality of HVAC systems, wherein each test request identifies a different test to perform. The prior art does not disclose "providing different test requests to at least two of the plurality of HVAC systems, wherein each test request

identifies a different test to perform", as recited in claim 40, in combination with the other elements of claim 39.

(Response)

Referring to FIG. 6, an example of the user database is shown. The user name is stored along with the user password and the information regarding which units are associated with the user name.

65 Referring to FIG. 7, an example of the unit database is shown. The items shown in the unit database are not meant to be limiting. The unit name is followed by the phone number, the power status, the mode status, the room temperature, the setpoint, the fan speed, the louver position, the timer status, diagnostic messages, alarm methods (which can include multiple alarm methods per unit), and the alarm data for sending an alarm message by one of the alarm methods. Status information on the HVAC devices which is contained in the unit database is either updated on a regular basis or when requested by a message from the entry device. That is, status information can be sent to the server by the HVAC controller on a regular basis, or the server can request the status information from the HVAC controller on a regular basis, in addition to or in place of the server requesting status information in response to a message from the entry device. The structure of the database is preferably changeable by a system administrator so as to add or delete fields monitored or controlled through the server. 15

UNIT DATABASE

UNIT NAME	UNIT PHONE #	POWER	MODE	ROOM TEMP	SETPOINT	FAN SPEED	LOUVER	TIMER	DIAGNOSTIC	ALARM METHOD 1	ALARM DATA 1
OFFICE	(123)456-7890	ON	HEAT	22	22	LOW	1	OFF	NONE	E-MAIL	XYZ@CARRIER.UTC.COM
MILAN	(234)567-8901	OFF	OFF	23	22	OFF	HOME	OFF	NONE	PHONE	(555)123-4567
FRANCE	(345)678-9012	ON	COOL	24	22	MEDIUM	6	OFF	NONE	E-MAIL	XYZ@CARRIER.UTC.COM
LOBBY	(456)789-0123	ON	FAIL	25	22	OFF	HOME	OFF	ROOM AIR	SMS	(555)234-5678

Fig 7

With regards to claim 39 please see the response to appellant's arguments above.

Claim 40 is clearly taught by the Hill et al. reference. (See fig 7 & col.4-5 lines 65-67&1-15 cited above) As the phrase "test request" is not clearly defined in appellant's

specification i.e. no specific test is described. It is within reasonable interpretation to conclude that querying the different units for power status would require a "power test", querying the HVAC units for the mode of operation would require a "mode test", querying the HVAC for fan speed would require a "fan speed test" etc. Clearly, these are different parameters and would require a different "test" to be performed in order to determine the particular status of the desired parameter.

Claim 42

1) (appellant argument) As set forth above, Hill et al. do not appear to teach the identical method steps recited in independent claim 39, from which claim 42 depends. Thus, for the same reasons discussed above, as well as other reasons, claim 42 is also believed to be clearly patentable over Hill et al.

2) (appellant argument) In addition, claim 42 recites the step of "scheduling service on at least some of the HVAC systems that have been identified as likely needing service".

The prior art does not disclose "scheduling service on at least some of the HVAC systems that have been identified as likely needing service", as recited in claim 42, in combination with the other elements of claim 39. For these additional reasons, claim 42 is believed to be clearly patentable over Hill et al.

(Response) With regards to claim 39 please see the response to appellant's arguments above.

Claim 42 is clearly taught by the Hill et al. reference. (see fig 7) Figure 7 clearly shows an alarm section. As it is well known in the art an alarm condition is created

when a component is not working properly. It would be within reasonable interpretation for one of ordinary skill in the art to conclude that the device that created the alarm needs maintenance.

Claim 43

1) (appellant argument) As discussed above with regard to independent claim 39, nowhere do Hill et al. appear to teach or suggest receiving the one or more maintenance signals at each of the HVAC systems, the one or more maintenance signals activating an HVAC component, performing a self-test on the activated HVAC component based on the received one or more maintenance signal, generating self-test result signals from the activated HVAC component based on the self-test performed on the activated HVAC component, as well as other elements of claim 43. Hill et al.'s status information accessing steps are clearly not identical to the steps of transmitting one or more maintenance signals, and performing a self-test based on the received one or more maintenance signal, as recited in claim 43. Examiner's interpretation of the claims is inconsistent with the specification and is inconsistent with the interpretation that would be reached by one of ordinary skill in the art.

2) (appellant argument) Moreover, nowhere do Hill et al. appear to teach or suggest receiving the one or more maintenance signals at each of the HVAC systems, the one or more maintenance signals activating an HVAC component, performing a self-test on the activated HVAC component based on the received one or more maintenance signal, generating self-test result signals from the activated HVAC component based on the

self-test performed on the activated HVAC component, as recited in claim 43. Hill et al. do not appear to teach each and every element of independent claim 43, as is required for anticipation, nor would there appear to be any reason or motivation to modify the teachings of Hill et al. to arrive at the claimed invention.

(Response) With regards to claim 39 please see the response to appellant's arguments above.

It should be noted that the term "self test" is merely a test performed on a HVAC device in response to a signal.

The Hill et al. reference is a method and apparatus for connecting to HVAC units and in particular, to monitoring and controlling HVAC units via the internet or other network. (Col. 1, lines 5-10) The Hill et al. reference also teaches a user with an entry device such as a handheld computer or cell phone using wireless access protocol (WAP) can change settings, obtain diagnostic information and receive alarm messages about a plurality of HVAC devices. (Col. 1, lines 41-45). The purpose of the Hill et al. reference is to maintain the HVAC system remotely which includes performing diagnostic functions. (Col. 2, lines 59-64)

Hill et al. discloses transmitting one or more test request/maintenance signals to the HVAC system from a remote location; (Col.2, lines 15-21)(fig 1 ) performing one or more self tests on at least selected ones of the HVAC systems in response to the test request/maintenance signal, and producing a self test result for each of the selected

HVAC systems; (Col.2, lines 21-24) and transmitting the self test result for each of the selected HVAC systems to a remote location; (Col. 2, line 22)

Claim 44

1) (appellant argument) As set forth above, Hill et al. do not appear to teach the identical method steps recited in independent claim 43, from which claim 44 depends. Thus, for the same reasons discussed above, as well as other reasons, claim 44 is also believed to be clearly patentable over Hill et al.

In addition, claim 44 recites the step of" determining the specified group of customer HVAC systems based on the specified group of customer HVAC systems being within a specified geographic area prior to the step of transmitting the one or more maintenance signals". The Examiner cites to Figures 6-7 as disclosing this element. Upon review, however, Figures 6- 7 do not appear to teach, disclose or suggest the specific method step of" determining the specified group of customer HVAC systems based on the specified group of customer HVAC systems being within a specified geographic area prior to the step of transmitting the one or more maintenance signals", as recited in claim 44, in combination with the other elements of claim 43. For these additional reasons, claim 44 is believed to be clearly patentable over Hill et al.

(response)

UNIT DATABASE

UNIT NAME	UNIT PHONE #	POWER	MODE	ROOM TEMP	SETPOINT	FAN SPEED	LOUVER	TIMER	DIAGNOSTIC	ALARM METHOD 1	ALARM DATA 1
OFFICE	(123)456-7890	ON	HEAT	22	22	LOW	1	OFF	NONE	E-MAIL	XYZ@CARRIER.UTC.COM
MILAN	(234)567-8901	OFF	OFF	23	22	OFF	HOME	OFF	NONE	PHONE	(555)123-4567
FRANCE	(345)678-9012	ON	COOL	24	22	MEDIUM	6	OFF	NONE	E-MAIL	XYZ@CARRIER.UTC.COM
LOBBY	(456)789-0123	ON	FAIL	25	22	OFF	HOME	OFF	ROOM AIR	SMS	(555)234-5678

Fig 7

Figure 7 (see above) clearly shows the HVAC systems being located at different geographic locations i.e. Milan, France, office, lobby etc. It should be noted a "different" geographic location maybe interpreted as a different location within the same building as shown above i.e. an office and lobby.

Claim 45

1) (appellant argument) As set forth above, Hill et al. do not appear to teach the identical method steps recited in independent claim 43, from which claim 45 depends. Thus, for the same reasons discussed above, as well as other reasons, claim 45 is also believed to be clearly patentable over Hill et al.

In addition, claim 45 recites the step of "determining which customer HVAC systems from the specified group of customer HVAC systems likely require maintenance based on the self-test signals received by the remote unit". The Examiner cites to Figures 6-7 as disclosing this element. Upon review, however, Figures 6-7 do not appear to teach, disclose or suggest the specific method step of "determining which customer HVAC systems from the specified group of customer HVAC systems likely require maintenance based on the self-test signals received by the remote unit", as recited in

claim 45, in combination with the other elements of claim 43. For these additional reasons, claim 45 is believed to be clearly patentable over Hill et al.

Claim 45 is clearly taught by the Hill et al. reference. (see fig 7) Figure 7 clearly shows an alarm section. As it is well known in the art an alarm condition is created when a component is not working properly.

It would be within reasonable interpretation for one of ordinary skill in the art to conclude that the device that created the alarm needs maintenance.

**B.**

Claim 46

(appellant argument) Hill et al. fails to teach the specific method steps recited in independent claim 45. For similar and other reasons, claim 46, which depends from claim 45 and includes significant additional distinguishing features, is also believed to be clearly patentable over Hill et al.

For the similar reasons as stated above in the response to claim 45 claim 46 is believed to read on the Hill et al. reference.

It should also be noted that claim 45 is a dependent claim.

**C.**

Claims 1-20, 29-30, 35-38, and 41 are patentable over Hill et al. in view of AndelmanLelek (NPL).

Claim 1

1) (appellant argument) Hill et al. does not appear to teach, disclose, or suggest: receiving a test request from the remote location; performing a test on a dormant



component of the HVAC system in response to the test, and transmitting the test result to a location outside of the building structure for subsequent analysis, as recited in claim 1.

1) (response)

As stated above in the response to claim 39, Hill et al. teaches receiving a test request from the remote location; performing a test on HVAC system in response to the test, and transmitting the test result to a location outside of the building structure for subsequent analysis

However, as stated in the final rejection Hill et al. does not appear to teach testing the dormant component of the HVAC system. The dormant component is defined as the air condition/cooling component in the winter and the heating component in the summer.

AndelmanLelek (NPL) is relied solely for its teaching of off-season testing.

AndelmanLelek (NPL)

Seasonal Testing

Portions of systems that are weather dependent will be retested during the opposite season that they were originally tested. The specifications will need to indicate this requirement for each Contractor that is responsible for demonstrating operation of a system to be tested. For example, if an air handling unit was commissioned during the summer a follow-up test would be performed during the winter for items such as the heating valve and damper controls. These items would have been verified for proper operation during the summer however their stability of control would not have been verified.

As seen in the cited section of the AndelmanLelek (NPL) reference above testing HVAC system in the opposite season is well known in the art. Since the HVAC system is retested in the opposite season it is clear that it was tested was previously tested.

2) (appellant argument)

The Examiner asserts the AndelmanLelek reference teaches testing a dormant component of an HVAC system and asserts that it would have been obvious to modify

the method of Hill et al. to include off season testing to ensure the HVAC system was functioning properly before the season change to minimize/eliminate service interruption. Appellant respectfully disagrees. The Examiner's reason for combining Hill et al. and AndelmanLelek appears to come from Appellant's own specification, which is clearly improper.

2) (response)

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning using appellants specification, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Further it should be noted that preventative maintenance is well known in the art.

The purpose of testing a component when it is not in use would be to Prevent/minimize/eliminate service interruption and keep the components performing as at there optimal level. For example it is well known in the art to clean your air conditioning unit before you employ the unit in the summer.

3) (appellant argument)The Seasonal Testing paragraph of AndelmanLelek does not appear to relate to on-going maintenance of the installed systems after commissioning is complete, and nowhere does AndelmanLelek appear to teach, disclose, or suggest

receiving a test request, from a remote location; performing a test on a dormant component of the HVAC system in response to the test request, and transmitting the test result to a location outside of the building structure for subsequent analysis, as recited in claim 1. Thus, neither Hill et al. nor AndelmanLelek teach or suggest many of the elements of claim 1. Moreover, AndelmanLelek does not appear to teach sending or receiving a test request and performing a test in response to the test request. Instead, AndelmanLelek merely notes that when a heating system is installed in summer, the contractor must return to test the heating system in the winter to verify stability of control. Thus, even if one were to combine the references, one would not arrive at the claimed invention. Additionally, the Examiner has failed to provide any reasoning as to why it would be obvious to modify Hill et al. to perform a test on the dormant component of the HVAC system in response to a test request provided from a remote location in order to arrive at claim 1, particularly in view of the teaching in AndelmanLelek of having an HVAC contractor physically return in the winter (i.e. during the in-season) to test portions of the heating system that was installed in the summer.

3) (response)

AndelmanLelek (NPL) is relied solely for its teaching of off-season testing for preventative maintenance i.e. testing the dormant component.

As mentioned above the other portions of the claim are taught by the Hill et al reference.

4) (appellant argument) Nowhere has the Examiner provided any articulated reasoning with rational underpinning as to why it would be obvious to, for example, receive a test

request from a remote location, perform a test on the dormant component of the HVAC system in response to the test request, and produce a test result, the test including activating the dormant component, and transmitting the test result to a location outside of the building structure for subsequent analysis, as recited in claim 1. Hill et al. and AndelmanLelek each fail to teach or suggest the specific method steps recited in claim 1. Additionally, there would appear to be no motivation for one of ordinary skill in the art to combine or modify their teachings to achieve the claimed method steps. Claim 1 is thus believed to be clearly patentable over Hill et al. in view of AndelmanLelek.

4) (response)

It would've been obvious to one skilled in the art at the time of the invention to modify the Hill teaching to include the off season testing taught by AndelmanLelek in order to ensure that the HVAC system was functioning properly before the season change and to minimize/eliminate service interruption.

As previously stated preventative maintenance is well known in the art and performing a test to ensure the dormant HVAC system was functioning properly before the season change and to minimize/eliminate service interruption would be obvious to one of ordinary skill in the art.

Claim 29

1) (appellant argument) As detailed above, nowhere do Hill et al. or AndelmanLelek, taken alone or in combination, teach or suggest receiving a test request that is provided from a location remote from the building, and in response to receiving the test request:

activating the heating component at a time when the HVAC system would not normally call for heat, and determining if the heating component is in compliance with a number of predetermined conditions. The Examiner asserts that since AndelmanLelek teaches retesting HVAC components in the opposite season from when they are installed, "clearly they were tested in the season they were not required." As discussed above, AndelmanLelek appear to teach installing a heater in the summer, and having the contractor return in the winter for in-season testing of the heater for stability and control. At best, AndelmanLelek might suggest installing and commissioning a heater in the summer, with the so-called "off-season" testing being relate to the basic setup that would be performed by the on-site contractor during initial installation. However, such summer testing would clearly be performed by the contractor during installation (i.e. when the contractor is already on site), and thus there would be no reason or motivation whatsoever for an HVAC system to receive a test request that is provided from a location remote from the building, and in response to receiving the test request, activate the heating component at a time when the HVAC system would not normally call for heat, and determine if the heating component is in compliance with a number of predetermined conditions, as recited in claim 29. Not only does the recited combination not result in the specific method steps recited in claim 29, but it does not even make sense since the installer would have ready on-site access to the status information of Hill et al. during the installation process. Hill et al. and AndelmanLelek each fail to teach or suggest the specific method steps recited in claim 29. Additionally, there is no motivation for one of ordinary skill in the art to combine or modify their teachings to

achieve the claimed method steps. Claim 29 is thus believed to be clearly patentable over Hill et al. in view of AndelmanLelek.

1)(response) As stated above AndelmanLelek (NPL) is relied solely for it's teaching of off-season testing for preventative Maintenance i.e. testing the dormant component. The remote testing of the HVAC and the other claimed elements are taught by the Hill et al. reference. Thus appellant's argument with regards to the contractor returning to service the HVAC are irrelevant.

#### Claim 30

1) (appellant argument) As discussed above, nowhere do Hill et al. or AndelmanLelek, taken alone or in combination, teach or suggest receiving a test request that is provided from a location remote from the building, and in response to receiving the test request: activating the cooling component at a time when the HVAC system would not normally call for cool, and determining if the cooling component is in compliance with a number of predetermined conditions. The Examiner asserts that since AndelmanLelek teach retesting HVAC components in the opposite season from when they are installed, "clearly they were tested in the season they were not required." As discussed above, AndelmanLelek appear to teach installing a heater in the summer, and having the contractor return in the winter for in-season testing of the heater for stability and control. At best, AndelmanLelek might suggest installing and commissioning a heater in the summer, with the so-called "off-season" testing being

related to the basic setup that would be performed by the on-site contractor during initial installation. However, such summer testing would clearly be performed by the contractor during installation (i.e. when the contractor is already on site), and thus there would be no reason or motivation whatsoever for a contractor to receive a test request that is provided from a location remote from the building, and in response to receiving the test request, activate the cooling component at a time when the HVAC system would not normally call for cool, and determine if the cooling component is in compliance with a number of predetermined conditions, as recited in claim 30. Not only does the recited combination not result in the specific method steps recited in claim 30, but it does not even make sense since the installer would have ready on-site access to the status information of Hill et al. during the installation process. Hill et al. and AndelmanLelek each fail to teach or suggest the specific method steps recited in claim 30. Additionally, there is no motivation for one of ordinary skill in the art to combine or modify their teachings to achieve the claimed method steps. Claim 30 is thus believed to be clearly patentable over Hill et al. in view of AndelmanLelek.

1)(response) As stated above AndelmanLelek (NPL) is relied solely for it's teaching of off-season testing for preventative Maintenance i.e. testing the dormant component. The remote testing of the HVAC and the other claimed elements are taught by the Hill et al. reference. Thus appellant's argument with regards to the contractor returning to service the HVAC are irrelevant.

Claim 35

1) (appellant argument) As discussed above, nowhere do Hill et al. or AndelmanLelek, taken alone or in combination, teach or suggest transmitting a test request to each of the plurality of HVAC systems from the remote location, performing one or more tests on each of the HVAC systems in response to the test request, and producing a test result for each of the HVAC systems, wherein at least one of the one or more tests that is performed activates and tests one or more of the active or dormant components of an HVAC system, transmitting the test result for each of the HVAC systems to a remote location, and storing the test results at the remote location. While Hill et al. appear to teach remotely accessing status information regarding an HVAC system, and AndelmanLelek appear to teach having a contractor return and test a heater during the winter (i.e. in-season) when the heater was installed in the summer, neither reference nor their combination teach the specific method steps of claim 35 including the steps of transmitting a test request from a remote location, and performing a test on an HVAC component in response to the test request. The Examiner has thus failed to provide references that teach or suggest each and every elements of claim 35, and has not provided articulate reasoning to support the conclusion of obviousness. Claim 35 is thus believed to be clearly patentable over Hill et al. in view of AndelmanLelek.

1)(response) As stated above AndelmanLelek (NPL) is relied solely for it's teaching of



off-season testing for preventative Maintenance i.e. testing the dormant component. Also stated above the remote testing of the HVAC and the other claimed elements are taught by the Hill et al. reference. With regards appellants arguments stating the prior art does not teach transmitting a test request from a remote location, and performing a test on an HVAC component in response to the test request. Please see examiners response to claim 39 above.

Claims 2-20, 36-38, 41.

1) (appellant argument) For at least the reasons set forth above, neither Hill et al., AndelmanLelek, nor their combination appears to teach the identical method steps recited in independent claims 1 and 35, and 39, from which claims 2-20, 36-38, and 41 depend. Dependent claims 2-20, 36-38, and 41 recite the specific method steps of their independent claims, and include significant additional distinguishing features. Neither of the cited references appear to teach or suggest such specific method steps. Furthermore, there would appear to be no reason for one of ordinary skill in the art to modify the methods of Hill et al. and/or AndelmanLelek to arrive at the specific method art to modify the methods of Hill et al. and/or AndelmanLelek to arrive at the specific method steps recited in these claims. Dependent claims 2-20, 36-38, and 41 are thus also believed to be clearly patentable over Hill et al. and AndelmanLelek.

1)(response) The Hill et al reference in combination with the AndelmanLelek reference clearly teach each and every element of independent claims 1, 35, and 39, and dependent claims 2-20, 36-38, and 41.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Aditya Bhat/  
Examiner, Art Unit 2863

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